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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/597,205	07/17/2007	Carsten Heldberg	713-1429	7730

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LOWE, HAUPTMAN, HAM & BERNER, LLP (ITW)  
1700 DIAGONAL ROAD  
SUITE 300  
ALEXANDRIA, VA 22314

EXAMINER
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BRADFORD, JONATHAN

ART UNIT	PAPER NUMBER
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3744

MAIL DATE	DELIVERY MODE
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04/05/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/597,205	<b>Applicant(s)</b> HELDBERG ET AL.	
	<b>Examiner</b> JONATHAN BRADFORD	<b>Art Unit</b> 3744	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period **will** apply and **will** expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply **will**, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 July 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 11-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>7/14/2006</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Specification*

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The abstract of the disclosure is objected to because it exceeds the 150 word limit as set forth in the MPEP. Correction is required. See MPEP § 608.01(b).

3. Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;

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- (4) if a mixture, its ingredients;
- (5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

The abstract of the disclosure is objected to because it is not concise and is merely a repeat of claim 1 describing extensive mechanical and design details of the apparatus.

Correction is required.

4. The disclosure is objected to because of the following informalities:

- On page 7, in the third paragraph, an "annular groove" is described as being both number 72 and 77 in the figures. Only number 77 is shown in the figures. Appropriate correction is required.
- On page 8 on the last line of the first paragraph, the term "cylindrical section" is numbered as 36. This is inconsistent with the previous numbering on page 6 in the third paragraph, which listed the "cylindrical section" as number 38 and the "guide component" as number 36.

Appropriate correction is required.

5. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The acronym "DWE" as claimed in Claim 11 is not defined at any point in the disclosure.

### ***Claim Objections***

6. Claims 11-20 are objected to because of the following informalities:

- Line 6 states "a second section co-operates..." It should state that --a second section of the expansion element cooperates--

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- Lines 4-5 claim “a spring” for pressing against the main valve. Lines 15-16 claim “a valve spring operating between the valve unit 4 and the guide component, which valve spring biases the unit...” It is understood from the disclosure that there is only one spring, therefore lines 15-16 should be changed to read --the spring operating between the valve unit 4 and the guide component, where the spring biases the unit.-- For examining purposes the spring in lines 4-5 and 15-16 are considered to be one and the same.
- Line 4 claims "a bypass valve member of a bypass valve..." Line 11 claims “an axially spaced piston-shaped bypass valve member.” It is understood from the disclosure that there is only one bypass valve member, therefore line 4 should be changed to --an axially spaced piston-shaped bypass member of a bypass valve-- and line 11 should be changed to --the axially spaced piston-shaped bypass member. -- For examination purposes the bypass member in lines 4 and 11 are considered to be one and the same.
- The use of “which” in lines 3, 11, and 15 should be --said--.

Claims 12-20 are also objected to, as they are dependent upon claim 11.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. **Regarding claim 13**, the phrase "or the like" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "or the like"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d). It is presumed that the limitation of claim 13 is drawn to plates that may be connected to one another by the means of snap-in pins and snap-in holes.

***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. **Claims 11, 15, and 19 are rejected** under 35 U.S.C. 102(b) as being anticipated by Henschel (DE 4231649).

**As to claim 11**, Henschel discloses a three way thermostat valve arrangement for the cooling circuit of an engine having: a main valve member movably mounted in a housing formed by the upper portion 1 and the lower portion 2 ; a spring 6 that presses the main valve member against a main valve seat; a bypass valve member 22 which cooperates with a valve seat 23 in the housing; an expansion element 3 with a first section 18 and a second section, where the first section 18 cooperates with an abutment 19 fixed to the housing and the second section cooperates with the main valve member and the bypass valve member so that both the main valve and the bypass valve 22 can either be selectively closed or opened in order to direct coolant to

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either a radiator or a bypass (Fig. 3); a conical main valve seat that contacts with the main valve member; a valve unit 4 formed by the main valve member and an axially spaced bypass valve member 22; an axial recess in the valve unit 4 that receives one end of the expansion element 3 in one direction in an axially secure manner on shoulder 21; an abutment 19 in the housing that supports the other end 18 of the expansion element 3; a guide component 5 axially supported in the housing in which the valve unit 4 is displaceably and axially guided; a valve spring 6 operating between the valve unit 4 and the guide component 5 which biases the unit in the direction of the main valve seat; stops 24 on the guide component 5 that cooperate with the valve unit 4 to limit the movement of the parts away from each other (Fig. 3); and a hollow cylindrical section of the guide component 5 that cooperates with the bypass valve member 22. (For element numbers, not specifically noted in the rejection, please refer to the accompanying drawings).

**As to claim 15**, Henschel discloses connecting the main valve member with the bypass valve member with axially parallel projections (shown in annotated figures).

**As to claim 19**, Henschel teaches a guide component 5 with an internal radial flange on which the valve spring 6 is supported.

### ***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. **Claims 12-14, 16, and 20 are rejected** under 35 U.S.C. 103(a) as being unpatentable over Henschel as applied to claim 11 above.

**As to claim 12**, Henschel teaches a sealing ring 13 on the main valve member which is brought into engagement with the conical sealing surface of the main valve seat. Henschel does not explicitly teach that the main valve member comprises two coaxial plates that may be connected to one another with the sealing ring 13 in between. However, the invention of Henschel meets the limitations of claim 12 except that it employs a one piece main valve member rather than a main valve member constructed of two plates in order to control the flow of coolant to the radiator. Because these two elements were art-recognized equivalents at the time of the invention in valve applications utilizing a valve member for opening and closing a flow path, one of ordinary skill would have found it obvious to substitute a valve member constructed of two plates for the single piece valve member of Henschel.

**As to claim 13**, Henschel does not explicitly teach connecting two plates together by means of snap-in pins and snap-in holes or the like. However, the invention of Henschel meets the limitations of claim 13 except that it employs a one piece main valve member rather than a main valve member constructed of two plates in order to control the flow of coolant to the radiator. Because these two elements were art-recognized equivalents at the time of the invention in valve applications utilizing a valve member for opening and closing a flow path, one of ordinary skill would have found it obvious to substitute a valve member constructed of two plates for the single piece

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valve member of Henschel. Further, the applicant does not require that the plates are connected to one another by means of snap-in pins and snap-in holes, only that the plates *may be* connected in such a manner. However, it would have been obvious to a person having ordinary skill in the art, at the time of the invention, to use snap-in pins and snap-in holes, because it would provide a quicker and more convenient construction than alternatives such as welding or applying epoxy.

**As to claim 14**, Henschel teaches an expansion element 3 comprising a shaft which has a radial flange that is received in a complimentary recess of the main valve.

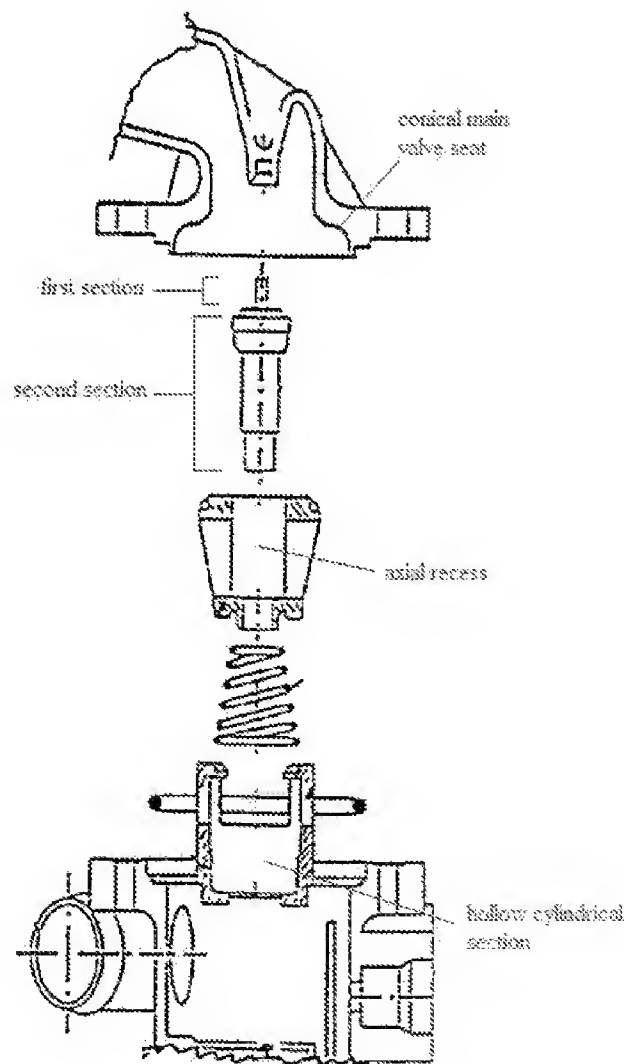
**As to claim 16**, Henschel teaches that the main valve member is connected to the piston shaped bypass valve 22 via the axially parallel projections to form an integral component. **As to claim 20**, Henschel teaches a guide component 5 that has an annular rib which fits securely into an annular groove of the lower portion 2 which supports the guide component.

13. **Claims 17-18 are rejected** under 35 U.S.C. 103(a) as being unpatentable over Henschel as applied to claim 11 above and further in view of Freismuth (US 2,996,254).

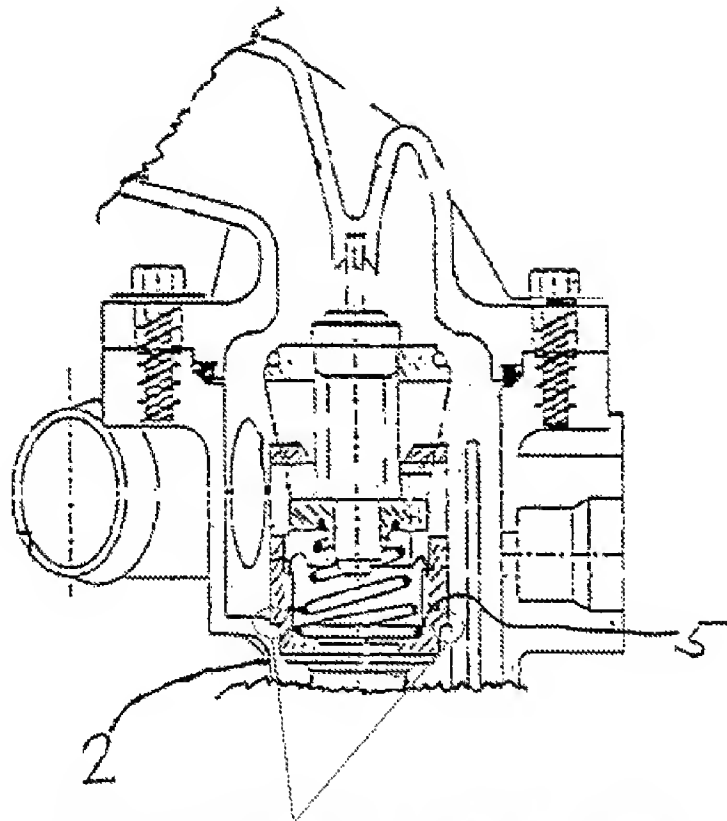
**As to claims 17 and 18**, Henschel teaches a plurality of axially parallel arms in the form of engaging bars 24 that are spaced apart from one another in the peripheral direction. Henschel does not explicitly teach at least one axially parallel guide groove which extends into the hollow cylindrical section and which, on the end facing the piston-shaped bypass valve member, comprises a section which is open to the side, and where the piston-shaped bypass valve member comprises a radial lug which may be introduced therein via the lateral section of the groove in the style of a bayonet

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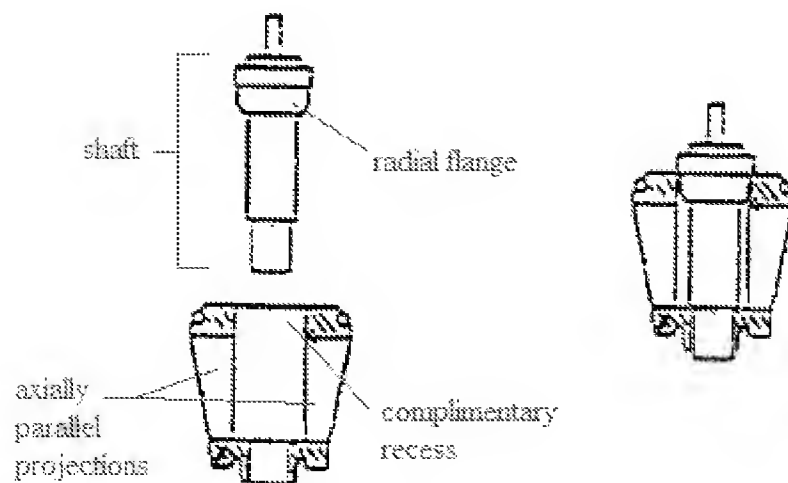
connection. However, Freismuth teaches the connection of a thermostatic valve using guiding grooves 55 and 57, lugs 50, and a bayonet connection 48. It would have been obvious to a person having ordinary skill in the art, at the time of the invention, to use a bayonet connection such as the connection taught by Freismuth to connect the guide component 5 and valve unit 4 of Henschel, because it would provide for convenient assembly and prevent unintentional disassembly of the valve (col. 2, lines 64-65.)

**Annotated Figures**

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Annular rib of guide component 5 fits securely into an annular groove of the lower portion 2 which supports the guide component.



***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JONATHAN BRADFORD whose telephone number is (571) 270-5199. The examiner can normally be reached on M-Th from 7-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frantz Jules or Cheryl Tyler can be reached on (571) 272-6681 or (571) 272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JB/  
3/29/10

/Cheryl J. Tyler/  
Supervisory Patent Examiner, Art  
Unit 3744